

Ordinance No. 5481

Ordinance of the Council of the City of Palo Alto Amending and Restating Chapter 16.14 of the Palo Alto Municipal Code, California Green Building Standards Code 2019 Edition, and Local Amendments and Related Findings, and Amending Section 16.12.035 of Chapter 16.12 to Make Conforming Changes

The Council of the City of Palo Alto does ORDAIN as follows:

**SECTION 1.** Title 16 of the Palo Alto Municipal Code is hereby amended by repealing in its entirety Chapter 16.14 and adopting a new Chapter 16.14 to read as follows:

**16.14.010 2019 California Green Building Standards Code adopted.**

The California Green Building Standards Code, 2019 Edition, Title 24, Part 11 of the California Code of Regulations, together with those omissions, amendments, exceptions and additions thereto, is adopted and hereby incorporated in this Chapter by reference and made a part hereof the same as if fully set forth herein.

Unless superseded and expressly repealed, references in City of Palo Alto forms, documents and regulations to the chapters and sections of the former California Code of Regulations, Title 24, shall be construed to apply to the corresponding provisions contained within the California Code of Regulations, Title 24, 2019. Ordinance No. 5393 of the City of Palo Alto and all other ordinances or parts of ordinances in conflict herewith are hereby suspended and expressly repealed.

Wherever the phrases “California Green Building Standards Code” or “CALGreen” are used in this code or any ordinance of the City, such phrases shall be deemed and construed to refer and apply to the California Green Building Standards Code, 2019 Edition, as adopted and amended by this chapter.

One copy of the California Green Building Standards Code, 2019 Edition, has been filed for use and examination of the public in the Office of the Building Official of the City of Palo Alto.

**16.14.020 2019 California Green Building Standards Code Appendix Chapters adopted.**

The following Appendix Chapters of the California Green Building Standards Code, 2019 Edition, are adopted and hereby incorporated in this Chapter by reference and made a part hereof the same as if fully set forth herein:

- A. Appendix A4 - Residential Voluntary Measures (Tier 1 and Tier 2)
- B. Appendix A5 - Non-residential Voluntary Measures (Tier 1 and Tier 2)

**16.14.030 Cross-References to California Green Building Standards Code.**

The provisions of this Chapter contain cross-references to the provisions of the California Green Building Standards Code, 2019 Edition, in order to facilitate reference and comparison to those provisions.

**16.14.040 Violations – Penalties.**

It is unlawful for any person to violate any provision or to fail to comply with any of the requirements of this Chapter or any permits, conditions, or variances granted under this Chapter. Violators shall be subject to any penalty or penalties authorized by law, including but not limited to: administrative enforcement pursuant to Chapters 1.12 and 1.16 of the Palo Alto Municipal Code; and criminal enforcement pursuant to Chapter 1.08 of the Palo Alto Municipal Code. Each separate day or any portion thereof during which any violation of this Chapter occurs or continues shall be deemed to constitute a separate offense.

When the chief building official determines that a violation of this Chapter has occurred, the chief building official may record a notice of pendency of code violation with the Office of the County Recorder stating the address and owner of the property involved. When the violation has been corrected, the chief building official shall issue and record a release of the notice of pendency of code violation.

**16.14.050 Enforcement -- Criminal Enforcement Authority.**

The employee positions designated in this section are authorized to exercise the authority provided in California Penal Code section 836.5 for violations of this Chapter. The designated employee positions are: (1) chief building official, (2) assistant chief building official, (3) building inspection manager, and (4) code enforcement officer.

**16.14.060 Local Amendments.**

The provisions of this Chapter shall constitute local amendments to the cross-referenced provisions of the California Green Building Standards Code, 2019 Edition, and shall be deemed to replace the cross-referenced sections of said Code with the respective provisions set forth in this Chapter.

**16.14.070 Section 202 amended – Definitions added.**

Section 202 of the California Green Building Standards Code is amended to include the following definitions:

**CPAU:** The City of Palo Alto Utilities Department.

**CALGREEN MANDATORY:** CALGreen mandatory requirements are triggered for projects outlined in Section 301.1 Scope of the code, as amended. Projects that trigger only CALGreen mandatory measures are not required to fulfill CALGreen Tier 1 or Tier 2 as listed in Appendix A4 and A5.

**CALGREEN “TIER 1”:** To achieve Tier 1 status, a project must comply with the requirements identified in Appendix A4, section A4.601.4 for residential projects and Appendix A5, section A5.601.2 for non-residential projects. The local adaptations to these appendices are identified in this ordinance. Projects subject to Tier 1 must fulfill CALGreen mandatory measures and CALGreen Tier 1 prerequisite measures. Tier 1 projects must also select the minimum amount of CALGreen elective measures required for Tier 1.

**CALGREEN “TIER 2”:** To achieve Tier 2 status, a project must comply with the requirements identified in Appendix A4, section A4.601.5 for residential projects and Appendix A5, section A5.601.3 for non-residential projects. The local adaptations to these appendices are identified in this ordinance. Projects subject to Tier 2 must fulfill CALGreen mandatory measures and CALGreen Tier 2 prerequisite measures. Tier 2 projects must also select the minimum amount of CALGreen elective measures required for Tier 2.

**CALGREEN “TIER 1” AND “TIER 2” PREREQUISITE MEASURES:** Projects subject to CALGreen Tier 1 or Tier 2 must fulfill the minimum prerequisites as described within Appendix A4, section A4.6 for residential projects and Appendix A5, section A5.6 for non-residential Projects, and local amendments within this ordinance. Tier 1 and Tier 2 prerequisite and elective measures are generally preceded by an “A”.

**CALGREEN “TIER 1” AND “TIER 2” ELECTIVE MEASURES:** Projects subject to CALGreen Tier 1 or Tier 2 must fulfill the minimum number of electives as described within Appendix A4, section A4.6 for residential projects and Appendix A5, section A5.6 for non-residential Projects, and local amendments within this ordinance. Tier 1 and Tier 2 prerequisite and elective measures are generally preceded by an “A”.

**CALGREEN INSPECTOR:** An individual certified through the International Code Council (ICC) CALGreen Inspector/Plans Examiner Certification for demonstrating knowledge and application of Green Building concepts during plan review and inspection. For projects that require a CALGreen Inspector/Plans Examiner verification, the Inspector must be contracted directly with the owner and may not be a contractor or employee of the design or construction firm.

**MODEL WATER EFFICIENT LANDSCAPE ORDINANCE.** The California Department of Water Resources Model Water Efficient Landscape Ordinance.

**PROCESS WATER.** Process water means untreated wastewater, uncontaminated by toilet discharge or an unhealthy bodily waste, which is not a threat from unhealthful processing, manufacturing or operating wastes.

**SALVAGE.** Salvage means the controlled removal of items and material from a building, construction, or demolition site for the purpose of on- or off-site reuse, or storage for later reuse. Examples include air conditioning and heating systems, columns, balustrades, fountains, gazebos, molding, mantels, pavers, planters, quoins, stair treads, trim, wall caps, bath tubs, bricks, cabinetry, carpet, doors, ceiling fans, lighting fixtures, electrical panel boxes, fencing, fireplaces, flooring materials of wood, marble, stone or tile, furnaces, plate glass, wall mirrors, door knobs, door brackets, door hinges, marble, iron work, metal balconies, structural steel, plumbing fixtures, refrigerators, rock, roofing materials, siding materials, sinks, stairs, stone, stoves, toilets, windows, wood fencing, lumber and plywood.

**SQUARE FOOTAGE.** For application of green building requirements, square footage means all new square footage, including basement areas (7 feet or greater in height).

**16.14.080 Section 301 amended – voluntary tiers added.**

Section 301 of the California Green Building Standards Code is amended to read:

**SECTION 301**

**GENERAL**

**301.1 Scope.** Buildings shall be designed to include the green building measures specified as mandatory in the application checklists contained in this code and any applicable local amendments. In addition, the City requires the use of Voluntary Tiers, as provided in Appendices A4 and A5, for certain residential and non-residential new construction, additions, and alterations.

**301.1.1 Residential additions and alterations. [HCD]** The mandatory provisions of Chapter 4 shall be applied to additions and/or alterations of existing residential buildings where the addition and/or alteration increases the building's conditioned area, volume, or size. The requirements shall apply only to and/or within the specific area of the addition or alteration.

**Tier 1 adopted (Residential).** All residential building additions and/or alterations exceeding 1000 square feet must meet CALGREEN MANDATORY plus the Tier 1 requirements, as amended by this Chapter and as applicable to the scope of work.

For Tier 1 projects, the area of alterations will include any construction or renovation to an existing structure other than repair or addition. Alterations include remodeling, reconstruction, historic restoration, changes or rearrangements of the structural parts or elements, and changes or rearrangement in the plan configuration of walls and full height partitions. Normal maintenance, reroofing, painting or wall papering, floor finishes, or replacement-in-kind of mechanical, plumbing and electrical systems are not alterations for the purposes of establishing scope of Tier 1 projects. The area of alteration should be limited to the footprint of the component(s) being altered. This does not exclude mandatory CALGreen requirements.

**Exception:** Attached and detached Accessory Dwelling Units, ADU conversions of existing structures shall meet the California Green Building Standards Code Mandatory requirements only.

**301.2 Low-rise and high-rise residential buildings. [HCD]** The provisions of individual sections of CALGreen may apply to either low-rise residential buildings, high-rise residential buildings, or both. Individual sections will be designated by banners to indicate where the section applies specifically to low-rise only (LR) or high-rise only (HR). When the section applies to both low-rise and high-rise buildings, no banner will be used.

**301.3 Non-residential additions and alterations. [BSC]** The provisions of individual sections of Chapter 5 apply to building non-residential additions of 1,000 square feet or greater, and/or building alterations with a permit valuation of \$200,000 or above (for occupancies within the authority of California Building Standards Commission). Code sections relevant to additions and alterations shall only apply to the portions of the building being added or altered within the scope of the permitted work.

A code section will be designated by a banner to indicate where the code section only applies to newly constructed buildings [N] or to additions and alterations [A]. When the code section applies to both, no banner will be used.

**Tier 1 adopted.** Non-residential alterations (including tenant improvements or renovations) of 5,000 square feet that include replacement of at least two of the following: HVAC system, building envelope, hot water system, or lighting system, must

comply with CALGREEN MANDATORY plus Tier 1 requirements, as amended by this Chapter and as applicable to the scope of work.

**Tier 2 adopted.** Non-residential additions of 1000 square feet or greater must comply with CALGREEN MANDATORY plus Tier 2 requirements, as amended by this Chapter and as applicable to the scope of work.

**301.1.2 Residential new construction – Tier 2 adopted.** All newly constructed Residential Buildings must meet CALGREEN MANDATORY plus Tier 2 requirements, as amended by this Chapter and as applicable to the scope of work.

**Exception:** Free standing detached Accessory Dwelling Units of new construction shall meet the following:

1. California Green Building Standards Code Mandatory plus Tier 2 prerequisite requirements.
2. No Planning and Design electives.
3. Two (2) Water Efficiency and Conservation electives.
4. Two (2) Material Conservation and Resource Efficiency electives.
5. One (1) Environmental Quality elective.

**301.3.3 Non-residential new construction – Tier 2 adopted.** All new non-residential construction must meet CALGREEN MANDATORY plus Tier 2 requirements, as amended by this Chapter and as applicable to the scope of work.

**301.6 Special Inspector Requirements.** Residential and non-residential project owners subject to CALGREEN MANDATORY plus Tier 1 or Tier 2 requirements shall contract a Special Inspector in accordance with section 702.2 of CALGreen, as amended.

**16.14.090 Section 702.2 Special Inspection.**

Section 702.2 of the California Green Building Standards Code is amended to read:

**702.2 Special Inspection.** When required by the enforcing agency, the owner or responsible entity acting as the owner’s agent shall employ one or more Special Inspectors to provide inspection or other duties necessary to substantiate compliance with this code. Special Inspectors shall demonstrate competence to the satisfaction of the enforcing agency for the particular type of inspection or task to be performed. In addition to other certifications or qualifications acceptable to the enforcing agency, the following certifications or education may be considered by the enforcing agency when evaluating the qualifications of a Special Inspector. The City shall maintain a list of pre-

approved Special Inspectors in accordance with this section. The owner shall contract a Special Inspector from the pre-approved list meeting one of the following;

1) Certification by a national or regional green building program:

**ICC Certified CALGreen Inspector/Plans Examiner:** Contract a CALGreen Inspector to provide third-party verification of compliance prior to Permit Issuance and prior to Final Inspection.

2) Other programs acceptable to the enforcing agency.

When required by the enforcing agency, the owner or responsible entity acting as the owner's agent shall employ one or more Special Inspectors to provide inspection or other duties necessary to substantiate compliance with this code. Special Inspectors shall demonstrate competence to the satisfaction of the enforcing agency for the particular type of inspection or task to be performed. In addition, the Special Inspector shall have a certification from a recognized state, national or international association, as determined by the local agency. The city shall maintain a list of pre-approved Special Inspectors in accordance with this section.

**Note:** Special Inspectors shall be independent entities with no financial interest in the materials or the project they are inspecting for compliance with this code.

**16.14.100 Reserved.**

**16.14.110 Residential Projects. Chapter 4 Preface: Green building requirements for project type and scope.**

A preface is added to Chapter 4 of the California Green Building Standards Code to read:

**Preface - Green Building Requirements for Project Type and Scope.** For design and construction of residential projects, the City of Palo Alto requires compliance with the mandatory measures of Chapter 4, in addition to use of Tier 1 and Tier 2 as specified in Palo Alto Municipal Code Chapter 16.14. See Section 202 for definitions on CALGREEN MANDATORY, Tier 1 prerequisites and electives, and Tier 2 prerequisites and electives. All elective measures are adopted as written under Appendix A4 unless otherwise indicated in this Section.

**16.14.120 Section A4.104 Site Preservation.**

Section A4.104.1 is adopted as a Tier 1 and Tier 2 elective and is amended to read:

**A4.104.1 Supervision and Education by a Special Inspector.** Individuals with oversight authority on the project, as defined in section 16.14.090 of this code, who have been trained in areas related to environmentally friendly development, shall teach green concepts to other members of the builder’s staff and ensure training and written instruction has been provided to all parties associated with the development of the project. Prior to the beginning of the construction activities, the builder shall receive a written guideline and instruction specifying the green goals of the project.

**Note:** Lack of adequate supervision and dissemination of the project goals can result in negative effects on green building projects. If the theme of green building is not carried through the project, the overall benefit can be substantially reduced by the lack of knowledge and information provided to the various entities involved with the construction of the project.

**16.14.130 Section A4.105 Deconstruction and Reuse of Existing Materials.**

**Section A4.105.1** Section A4.105.1 is adopted as an elective measure effective through June 30, 2020. Starting July 1, 2020 per Chapter 5.24 of Title 5 of the Municipal Code, Section A4.105.1 is not adopted as an elective measure. See Chapter 5.24 of the Municipal Code for the local deconstruction requirements.

**Section A4.105.2** is adopted as a Tier 1 and Tier 2 elective measure.

**A4.105.2 Reuse of materials.** Nonhazardous materials which can be easily reused include but are not limited to the following:

1. Light fixtures
2. Plumbing fixtures
3. Doors and trim
4. Masonry
5. Electrical devices
6. Appliances
7. Foundations or portions of foundations

**Note:** Reused material must be in compliance with the appropriate Title 24 requirements.



**16.14.140 Reserved.**

**16.14.150 Section A4.106.8 Electric Vehicle (EV) Charging for New Construction.**

Section A4.106.8 is not adopted as a Tier 1 and Tier 2 elective measure. Projects must comply with the mandatory electric vehicle supply equipment (EVSE) requirements stated in Section A4.106.8, as amended.

**16.14.160 Section A4.106.9 Bicycle Parking.**

Section A4.106.9 is not adopted as a Tier 1 and Tier 2 elective measure. Projects must comply with the bicycle parking requirements in the Palo Alto Municipal Code.

**16.14.170 Section A4.106.10 Light Pollution Reduction.**

Section A4.106.10 is adopted as a Tier 1 and Tier 2 elective measure for all covered projects and is amended to read:

**A4.106.10 Light pollution reduction.** Outdoor lighting systems shall be designed and installed to comply with the following:

1. The minimum requirements in the California Energy Code for Lighting Zones 1-4 as defined in Chapter 10 of the California Administrative Code; and
2. Backlight, Uplight and Glare (BUG) ratings as defined in IES TM-15-11; and
3. Allowable BUG ratings not exceeding those shown in Table A4.106.10; or
4. Comply with a local ordinance lawfully enacted pursuant to Section 101.7 of this code, whichever is more stringent.

Projects may use an approved equal reference standard for light fixtures where BUG ratings are unavailable.

**Exceptions:**

1. Luminaires that qualify as exceptions to the California Energy Code.
2. Emergency lighting.
3. One- and two-family dwellings.

Note: The International Dark-Sky Association (IDA) and the Illuminating Engineering Society of North America (IESNA) have developed a Model Lighting

Ordinance (MLO). The MLO was designed to help municipalities develop outdoor lighting standards that reduce glare, light trespass, and skyglow. The model ordinance and user guides for the ordinance may be accessed at the International Dark-Sky Association web site.

**16.14.180 Section A4.203.1 Performance Approach for Newly Constructed Buildings.**

Sections A4.203.1 is not adopted as a Tier 1 and Tier 2 elective measure. Projects shall comply with Chapter 16.17 of the Palo Alto Municipal Code (Energy Reach Code).

**16.14.190 Reserved.**

**16.14.200 Reserved.**

**16.14.210 Reserved.**

**16.14.220 Section A4.304.3 Irrigation Metering Device.**

Section A4.304.3 is adopted as a Tier 1 and Tier 2 elective measure and is amended to read:

**A4.304.3 Irrigation Metering Device.** Dedicated irrigation meters from CPAU are to be installed in all new construction and rehabilitated landscapes when the landscape is greater than 1,000 square feet.

**16.14.230 Section A4.305 Water Reuse Systems.**

Sections A4.305.1, A4.305.2, and A4.305.3 are adopted as Tier 1 and Tier 2 elective measures, and are amended to read:

**A4.305.1 Graywater.** Alternative plumbing piping is installed to permit the discharge from the clothes washer and other fixtures (except toilets and kitchen sinks) to be used for an irrigation system in compliance with the California Plumbing Code. In the event that the whole house graywater system is installed in compliance with the California Plumbing Code, then this measure shall count as 3 electives.

**A4.305.2 Recycled Water Piping.** Based on projected availability, dual water piping is installed for future use of recycled water at the following locations:

1. Interior piping for the use of recycled water is installed to serve all water closets, urinals, and floor drains.

2. Exterior piping is installed to transport recycled water from the point of connection to the structure. Recycled water systems shall be designed and installed in accordance with the California Plumbing Code.

**A4.305.3 Recycled water for landscape irrigation.** Recycled water piping is used for landscape irrigation.

Section A4.305.4 is added as Tier 1 and Tier 2 prerequisite and shall read as follows:

**A4.305.4 Additions and alterations.** All multifamily residential additions and alterations must install recycled water infrastructure for irrigation when the landscape area exceeds 1,000 square feet.

**16.14.240 Section A4.403.1 Frost Protection Foundation Systems.**

Sections A4.403.1 is not adopted as a Tier 1 and Tier 2 elective measure.

**16.14.250 Section A4.403.2 Reduction in cement use.**

Section A4.403.2 is not adopted as a Tier 1 and Tier 2 prerequisite. Section A4.403.2 is adopted as a Tier 1 and Tier 2 elective measure and shall read as:

**A4.403.2 Reduction in cement use.** As allowed by the enforcing agency, cement used in foundation mix design shall be reduced as follows:

**Tier 1.** Not less than a 20 percent reduction in cement.

**Tier 2:** Not less than a 25 percent reduction in cement.

Note: Products commonly used to replace cement in concrete mix designs include, but are not limited to:

1. Fly ash
2. Slag
3. Silica fume
4. Rice hull ash

**16.14.260 Section A4.408.1 Enhanced Construction Waste Reduction.**

Section A4.408.1 is adopted as mandatory and is amended to read:

**A4.408.1 Enhanced Construction Waste Reduction.** Nonhazardous construction and demolition debris generated at the site is diverted to recycle or salvage in compliance with the following:

Projects with a given valuation of \$25,000 or more must have at least an 80-percent reduction. Any mixed recyclables that are sent to mixed-waste recycling facilities shall include a qualified third party verified facility average diversion rate. Verification of diversion rates shall meet minimum certification eligibility guidelines, acceptable to the local enforcing agency.

**A4.408.1.1 Documentation.** Documentation shall be provided to the enforcing agency which demonstrates compliance with all construction and demolition waste reduction requirements.

**16.14.265 Section A4.504.1 Compliance with formaldehyde limits.**

Section A4.504.1 is adopted as a Tier 1 and Tier 2 elective measure.

**16.14.270 Section A4.504.3 Thermal insulation.**

Section A4.504.3 is not adopted as a Tier 1 and Tier 2 prerequisite. Section A4.504.3 is adopted as a Tier 1 and Tier 2 elective measure.

**16.14.280 Non-Residential Projects: Chapter 5 Preface Green Building Requirements for Project Type and Scope.**

A Preface is added to Chapter 5 of the California Green Building Standards Code to read:

**Preface – Green Building Requirements for Project Type and Scope.** For design and construction of non-residential projects, the City requires compliance with the mandatory measures of Chapter 5, in addition to use of Tier 1 and Tier 2 as specified in Palo Alto Municipal Code Chapter 16.14. See Section 202 for definitions on CALGREEN MANDATORY, Tier 1 prerequisites and electives, and Tier 2 prerequisites and electives. All elective measures are adopted as written under Appendix A5 unless otherwise indicated in this Section.

**16.14.290 Section 5.106.1.1 Local storm water pollution prevention.**

Section 5.106.1.1 Local ordinance is amended to read:

**5.106.1.1 Local ordinance.** Newly constructed projects and additions shall comply with additional storm water pollution prevention measures as applicable. (See Chapter 16.11, Storm Water Pollution Prevention, of the Palo Alto Municipal Code.)

**16.14.295 Section 5.106.8 Light pollution reduction**

Section 5.106.8 Light pollution reduction is amended to read:

**5.106.8 Light pollution reduction.** Outdoor lighting systems shall be designed and installed to comply with the following:

1. The minimum requirements in the California Energy Code for Lighting Zones 0-4 as defined in Chapter 10, Section 10-114 of the California Administrative Code; and
2. Backlight (B) ratings as defined in IES TM-15-11 (shown in Table A-1 in Chapter 8);
3. Uplight and Glare ratings as defined in California Energy Code (shown in Tables 130.2-A and 130.2-B in Chapter 8); and
4. Allowable BUG ratings not exceeding those shown in Table 5.106.8 [N]; or
5. Comply with a local ordinance lawfully enacted pursuant to Section 101.7, whichever is more stringent.

Projects may use an approved equal reference standard for light fixtures where BUG ratings are unavailable.

**Exceptions:**

1. Luminaires that qualify as exceptions in Section 140.7 of the California Energy Code.
2. Emergency lighting.
3. Building facade meeting the requirements in Table 140.7-B of the California Energy Code, Part 6.
4. Custom lighting features as allowed by the local enforcing agency, as permitted by Section 101.8 Alternate materials, designs and methods of construction.

**16.14.300 Section 5.305.1.3 Dual Plumbing.**

Section 5.305.1.3 Dual plumbing is added as mandatory and is amended to read:

**5.305.1.3 Dual plumbing.** New buildings and facilities shall be dual plumbed for potable and recycled water systems for toilet flushing when recycled water is available. All building projects for which CPAU recycled water service is available must install dual Plumbing and use recycled water for toilet and urinal flushing when the building area is greater than 10,000 square feet or where installation of 25 or more toilets and urinals is proposed. All projects for which CPAU recycled water service is not yet available must install dual plumbing for use of recycled water for toilet and urinal flushing when the building area exceeds 50,000 square feet or where installation of 50 or more toilets and urinals is proposed.

**16.14.310 Reserved.**

**16.14.320 Reserved.**

**16.14.330 Reserved.**

**16.14.340 Reserved.**

**16.14.350 Reserved.**

**16.14.360 Section 5.304.2 Invasive species prohibited.**

Section 5.304.2 is added as mandatory to read:

**5.304.2 Invasive species prohibited.** All non-residential new construction, additions, and alterations shall not install invasive species in a landscape area of any size.

**16.14.365 Section 5.306 Non-residential enhanced water budget.**

Section 5.306 Non-residential enhanced water budget is added as mandatory to read:

**5.306 Non-residential enhanced water budget.** Non-residential buildings anticipated to use more than 1,000 gallons of water a day shall complete an Enhanced Water Budget Calculator as established by the Chief Building Official or designee .

**16.14.370 Section A5.408 Construction Waste Reduction, Disposal and Recycling.**

Section A5.408.3.1.1 Enhanced Construction Waste Reduction is adopted at Tier 2 (80% construction waste reduction) as a mandatory requirement for all non-residential construction, including new construction, additions, and alterations, as long as the construction has a

valuation exceeding \$25,000. Non-residential projects with a lower valuation shall remain subject to California Green Building Code Chapter 5 mandatory requirements.

**16.14.375 Reserved.**

**16.14.380 Section 5.410.4.6 Energy STAR portfolio manager.**

Section 5.410.4.6 Energy STAR portfolio manager is added as mandatory to read:

**5.410.4.6 Energy STAR portfolio manager.** All non-residential projects exceeding \$100,000 valuation must provide evidence of an Energy STAR Portfolio Manager project profile for both water and energy use prior to Permit Issuance, acquire an Energy STAR Portfolio Manager Rating, and submit the rating to the City of Palo Alto once the project has been occupied after 12 months.

**16.14.390 Section 5.410.4.7 Performance reviews – energy.**

Section 5.410.4.7 Performance reviews - energy is added to read:

**5.410.4.7 Performance reviews – energy.** All projects over 10,000 square feet. The City reserves the right to conduct a performance review, no more frequently than once every five years unless a project fails review, to evaluate the building's energy use to ensure that resources used at the building and/or site do not exceed the maximum allowance set forth in the rehabilitation or new construction design. Following the findings and recommendations of the review, the City may require adjustments to the energy usage or energy-using equipment or systems if the building is no longer compliant with the original design. Renovation or rehabilitation resulting from such audit activity shall be considered a project and shall be subject to applicable documentation submittal requirements of the City. This section is effective only for those projects for which a building permit was issued after January 1, 2009.

**16.14.400 Section 5.410.4.8 Performance reviews – water.**

Section 5.410.4.8 Performance reviews - water is added to read:

**5.410.4.8 Performance reviews – water.** All sites greater than one acre: The City reserves the right to conduct performance reviews, no more frequently than once every five years unless a project fails review, to evaluate water use to ensure that resources used at the building and/or site do not exceed a maximum allowance set forth in the rehabilitation or new construction design. Water use reviews may be initiated by the

Building Division, or as a coordinated effort between the CPAU and the Santa Clara Valley Water District (SCVWD), or as part of SCVWD's established water conservation programs. Following the findings and recommendations of the review, the City may require adjustments to irrigation usage, irrigation hardware, and/or landscape materials to reduce consumption and improve efficiency. Renovation or rehabilitation resulting from such audit activity shall be considered a project and shall be subject to applicable documentation submittal requirements of the City.

**16.14.410 Section 5.506 Indoor Air Quality.**

Section 5.506.3 is added as mandatory to read:

**Section 5.506.3 Indoor Air Quality Management Plan.** All commercial and multi-family projects must submit an Indoor Air Quality Management Plan (IAQ) with building permit application in accordance with the Sheet Metal and Air Conditioning Contractors National Association (SMACNA IAQ) Guidelines for Occupied Buildings Under Construction, 2nd edition ANSI/SMACNA 008-2008.

**16.14.420 Section A4.106.8 Electric Vehicle (EV) Charging.**

Section A4.106.8 of the California Green Building Standards Code is adopted as mandatory and amended to read:

**A4.106.8 Electric Vehicle (EV) Charging for Residential Structures.** Newly constructed single family and multifamily residential structures, including residential structures constructed as part of a mixed-use development, shall comply with the following requirements for electric vehicle supply equipment (EVSE). All parking space calculations under this section shall be rounded up to the next full space. The requirements stated in this section are in addition to those contained in Section 4.106.4 of the California Green Building Standards Code. In the event of a conflict between this section and Section 4.106.4 of the California Green Building Standards Code, the more robust EV Charging requirements shall prevail.

**Definitions.** For the purposes of this section, the following definitions shall apply:

- (a) Level 2 EVSE. "Level 2 EVSE" shall mean an EVSE capable of charging at 30 amperes or higher at 208 or 240 VAC. An EVSE capable of simultaneously charging at 30 amperes for each of two vehicles shall be counted as two Level 2 EVSE.



- (b) Conduit Only. “Conduit Only” shall mean, at minimum: (1) a panel capable to accommodate a dedicated branch circuit and service capacity to install a 208/240V, 50 amperes grounded AC outlet; and (2) raceway or wiring with capacity to accommodate a 100 ampere circuit; terminating in (3) a listed cabinet, box, enclosure, or NEMA receptacle. The raceway shall be installed so that minimal removal of materials is necessary to complete the final installation.
- (c) EVSE-Ready Outlet. “EVSE-Ready Outlet” shall mean, at minimum: (1) a panel capable to accommodate a dedicated branch circuit and service capacity to install a 208/240V, 50 amperes grounded AC outlet; (2) a two-pole circuit breaker; (3) raceway with capacity to accommodate 100-ampere circuit; (4) 50 ampere wiring; terminating in (5) a 50 ampere NEMA receptacle in a covered outlet box.
- (d) EVSE Installed. “EVSE Installed” shall mean an installed Level 2 EVSE.

**A4.106.8.1 New one-family, two-family and townhouse dwellings.** The following standards apply to newly constructed detached and attached single family, two-family and townhouse residences.

- (a) In general. The property owner shall provide Conduit Only, EVSE-Ready Outlet, or EVSE Installed for each residence.
- (b) Location. The proposed location of a charging station may be internal or external to the dwelling and shall be in close proximity to an on-site parking space consistent with City guidelines, rules, and regulations.

**A4.106.8.2 New Multi-Family Dwellings.** The following standards apply to newly constructed residences in a multi-family residential structure, except as provided in section A4.106.8.2.1.

- (a) Resident parking. The property owner shall provide at least one EVSE-Ready Outlet or EVSE Installed for each residential unit in the structure.
- (b) Guest parking. The property owner shall provide Conduit Only, EVSE-Ready Outlet, or EVSE Installed, for at least 25% of guest parking spaces, among which at least 5% (and no fewer than one) shall be EVSE Installed.
- (c) Accessible spaces. Projects shall comply with the 2019 California Building Code requirements for accessible electric vehicle parking.

- (d) Minimum total circuit capacity. The property owner shall ensure sufficient circuit capacity, as determined by the Chief Building Official or designee , to support a Level 2 EVSE in every location where Circuit Only, EVSE-Ready Outlet or EVSE Installed is required.
- (e) Location. The EVSE, receptacles, and/or raceway required by this section shall be placed in locations allowing convenient installation of and access to EVSE. In addition, if parking is deed-restricted to individual residential units, the EVSE or receptacles required by subsection (a) shall be located such that each unit has access to its own EVSE or receptacle. Location of EVSE or receptacles shall be consistent with all City guidelines, rules, and regulations.

**A4.106.8.2.2 Exception – Multi-Family Residential Structures with Individual, Attached Parking.** The property owner shall provide Conduit Only, EVSE-Ready Outlet, or EVSE Installed for each newly constructed residence in a multi-family residential structure featuring: (1) a parking space attached to the residence; and (2) a shared electrical panel between the residence and parking space (e.g., a multi-family structure with tuck-under garages).

**A4.106.8.3 New Hotels.** The following standards apply to newly constructed hotels.

- (a) In general. The property owner shall provide Conduit Only, EVSE-Ready Outlet, or EVSE Installed for at least 30% of parking spaces, among which at least 10% (and no fewer than one) shall be EVSE Installed.
- (b) Accessible spaces. Projects shall comply with the 2019 California Building Code requirements for accessible electric vehicle parking.
- (c) Minimum total circuit capacity. The property owner shall ensure sufficient circuit capacity, as determined by the Chief Building Official or designee , to support a Level 2 EVSE in every location where Circuit Only, EVSE-Ready Outlet or EVSE Installed is required.
- (d) Location. The EVSE, receptacles, and/or raceway required by this section shall be placed in locations allowing convenient installation of and access to EVSE. Location of EVSE or receptacles shall be consistent with all City guidelines, rules, and regulations.

**16.14.430 Section A5.106.5.3 Electric Vehicle (EV) Charging for Non-Residential Structures.**

Section A5.106.5.3 of the California Green Building Standards Code is adopted as mandatory and amended to read:

**A5.106.5.3 Electric Vehicle (EV) Charging for Non-Residential Structures.** New non-residential structures shall comply with the following requirements for electric vehicle supply equipment (EVSE). All parking space calculations under this section shall be rounded up to the next full space. The requirements stated in this section are in addition to those contained in Section 5.106.5.3 of the California Green Building Standards Code. In the event of a conflict between this section and Section 5.106.5.3, the more robust EV Charging requirements shall prevail.

**Definitions.** For the purposes of this section, the following definitions shall apply:

- (a) Level 2 EVSE. “Level 2 EVSE” shall mean an EVSE capable of charging at 30 amperes or higher at 208 or 240 VAC. An EVSE capable of simultaneously charging at 30 amperes for each of two vehicles shall be counted as two Level 2 EVSE.
- (b) Conduit Only. “Conduit Only” shall mean, at minimum: (1) a panel capable to accommodate a dedicated branch circuit and service capacity to install at least a 208/240V, 50 amperes grounded AC outlet; and (2) raceway or wiring with capacity to accommodate a 100 ampere circuit; terminating in (3) a listed cabinet, box, enclosure, or NEMA receptacle. The raceway shall be installed so that minimal removal of materials is necessary to complete the final installation.
- (c) EVSE-Ready Outlet. “EVSE-Ready Outlet” shall mean, at minimum: (1) a panel capable to accommodate a dedicated branch circuit and service capacity to install at least a 208/240V, 50 amperes grounded AC outlet; (2) a two-pole circuit breaker; (3) raceway with capacity to accommodate a 100-ampere circuit; (4) 50 ampere wiring; terminating in (5) a 50 ampere NEMA receptacle in a covered outlet box.
- (d) EVSE Installed. “EVSE Installed” shall mean an installed Level 2 EVSE.

**A5.106.5.3.5 Non-Residential Structures Other than Hotels.** The following standards apply to newly constructed non-residential structures other than hotels.

- (a) In general. The property owner shall provide Conduit Only, EVSE-Ready Outlet, or EVSE Installed for at least 25% of parking spaces, among which at least 5% (and no fewer than one) shall be EVSE Installed.
- (b) Accessible spaces. Projects shall comply with the 2019 California Building Code requirements for accessible electric vehicle parking.
- (c) Minimum total circuit capacity. The property owner shall ensure sufficient circuit capacity, as determined by the Chief Building Official or designee , to support a Level 2 EVSE in every location where Circuit Only, EVSE-Ready Outlet or EVSE Installed is required.
- (d) Location. The EVSE, receptacles, and/or raceway required by this section shall be placed in locations allowing convenient installation of and access to EVSE. Location of EVSE or receptacles shall be consistent with all City guidelines, rules, and regulations.

**SECTION 2.** The Council adopts the findings for local amendments to the California Green Building Standards Code, 2019 Edition, attached hereto as Exhibit “A” and incorporated herein by reference.

**SECTION 3.** Section 16.12.035 of Chapter 16.12 of Title 16 of the Palo Alto Municipal Code is hereby amended to read as follows:

**16.12.035 New construction; recycled water use for toilet and urinal flushing and floor trap priming.**

- (a) All applications for building permits for new or remodeled buildings or groups of buildings within the boundaries of a recycled water project area, filed after the adoption of this chapter, where the building square footage total, including both the original square footage and any addition, is greater than 10,000 square feet or where installation of twenty-five or more toilets and urinals is proposed, shall incorporate dual plumbing in the design of the facility to allow the use of recycled water, when it becomes available, for flushing toilets and urinals and priming floor traps. Dual plumbing requirements shall not apply to single family homes.
- (b) All applications for building permits for new or remodeled buildings or groups of buildings in geographic areas not within the boundaries of a recycled water project area, filed after the adoption of this chapter, where the building square footage total, including both the original square footage and any addition, is greater than 50,000 ~~100,000~~ square feet or where installation of 50 ~~100~~ or more toilets and urinals is proposed, shall incorporate dual plumbing in the design of the facility to allow the use of



**SECTION 6.** This Ordinance shall be effective on the thirty-first day after the date of its adoption.

INTRODUCED: November 4, 2019

PASSED: November 18, 2019

AYES: CORMACK, DUBOIS, FILSETH, KNISS, KOU, TANAKA

NOES:

ABSENT: FINE

ABSTENTIONS:

ATTEST:

DocuSigned by:  
*Beth Minor*  
27523117DA804D7...  
City Clerk

DocuSigned by:  
*Eric Filseth*  
04244717295F422...  
Mayor

APPROVED AS TO FORM:

APPROVED:

DocuSigned by:  
*Sandra Lee*  
36C6B9D357AF4E3...  
Deputy City Attorney

DocuSigned by:  
*Ed Swkada*  
F2DCA19CCC8D4F9...  
City Manager

DocuSigned by:  
*[Signature]*  
293CF322E1294F6...  
Director of Planning and Development  
Services

DocuSigned by:  
*Kelly S. Nose*  
0513042E38B4400...  
Director of Administrative Services

## Exhibit A

### FINDINGS FOR LOCAL AMENDMENTS TO CALIFORNIA GREEN BUILDING STANDARD CODE, 2019 EDITION

Section 17958 of the California Health and Safety Code provides that the City may make changes to the provisions in the uniform codes that are published in the California Building Standards Code. Sections 17958.5 and 17958.7 of the Health and Safety Code require that for each proposed local change to those provisions in the uniform codes and published in the California Building Standards Code which regulate buildings used for human habitation, the City Council must make findings supporting its determination that each such local change is reasonably necessary because of local climatic, geological, or topographical conditions.

Local building regulations having the effect of amending the uniform codes, which were adopted by the City prior to November 23, 1970, were unaffected by the regulations of Sections 17958, 17958.5 and 17958.7 of the Health and Safety Code. Therefore, amendments to the uniform codes which were adopted by the City Council prior to November 23, 1970 and have been carried through from year to year without significant change, need no required findings. Also, amendments to provisions not regulating buildings used for human habitation, including amendments made only for administrative consistency, do not require findings.

<b>Code: Cal Green</b>					
<b>Section</b>	<b>Title</b>	<b>Add</b>	<b>Deleted</b>	<b>Amended</b>	<b>Justification (See below for keys)</b>
301	Voluntary tiers added	✓		✓	C & E
303.1.2	Cumulative Construction		✓		C & E
4.105	Deconstruction Survey		✓		C & E
4.304	Outdoor Water Use	✓		✓	C
5.105.1	Salvage	✓		✓	E
5.106.1.1	Local ordinance	✓			C
5.106.8	Light pollution reduction			✓	E
5.303.5	Dual Plumbing	✓			C
5.304.5	Potable Water Elimination	✓			C
5.304.6	Invasive Species	✓			E
5.305.1	Non-residential enhanced water budget	✓			C
5.410.4.6	Energy STAR portfolio manager	✓			C & E
5.410.4.7	Performance reviews – energy	✓		✓	C & E
5.410.4.8	Performance reviews – water	✓			C & E
5.506.3	Indoor Air Quality Management Plan	✓			C & E
702.2	Special Inspection			✓	E
Appendix A4	Residential Voluntary Measures	✓	✓	✓	C & E
Appendix A5	Non-Residential Voluntary Measures	✓		✓	C & E

### Key to Justification for Amendments to Title 24 of the California Code of Regulations

- C** This amendment is justified on the basis of a local **climatic** condition. The seasonal climatic conditions during the late summer and fall create severe fire hazards to the public health and welfare in the City. The hot, dry weather frequently results in wild land fires on the brush covered slopes west of Interstate 280. The aforementioned conditions combined with the geological characteristics of the hills within the City create hazardous conditions for which departure from California Building Standards Code is required. Failure to address and significantly reduce greenhouse gas (GHG) emissions could result in rises in sea level, including in San Francisco Bay, that could put at risk Palo Alto homes and businesses, public facilities, and Highway 101 (Bayshore Freeway), particularly the mapped Flood Hazard areas of the City. Energy efficiency is a key component in reducing GHG emissions, and construction of more energy efficient buildings can help Palo Alto reduce its share of the GHG emissions that contribute to climate change. The burning of fossil fuels used in the generation of electric power and heating of buildings contributes to climate change, which could result in rises in sea level, including in San Francisco Bay, that could put at risk Palo Alto homes and businesses 1 public facilities, and Highway 101. Due to decrease in annual rain fall, Palo Alto experiences the effect of drought and water saving more than some other communities in California.
- E** Green building enhances the public health and welfare by promoting the **environmental** and economic health of the City through the design, construction, maintenance, operation and deconstruction of buildings and sites by incorporating green practices into all development. The green provisions in this Chapter are designed to achieve the following goals:
- (a) Increase energy efficiency in buildings;
  - (b) Increase water and resource conservation;
  - (c) Reduce waste generated by construction and demolition projects;
  - (d) Provide durable buildings that are efficient and economical to own and operate;
  - ( e) Promote the health and productivity of residents, workers, and visitors to the city;
  - (f) Recognize and conserve the energy embodied in existing buildings;
  - (g) Encourage alternative transportation; and
  - (h) Reduce disturbance of natural ecosystems.
- G** This amendment is justified on the basis of a local **geological** condition. The City of Palo Alto is subject to earthquake hazard caused by its proximity to San Andreas fault. This fault runs from Hollister, through the Santa Cruz Mountains, epicenter of the 1989 Loma Prieta earthquake, then on up the San Francisco Peninsula, then offshore at Daly City near Mussel Rock. This is the approximate location of the epicenter of the 1906 San Francisco earthquake. The other fault is Hayward Fault. This fault is about 74 mi long, situated mainly along the western base of the hills on the east side of San Francisco Bay. Both of these faults are considered major Northern California earthquake faults which may experience rupture at any time. Thus, because the City is within a seismic area which includes these earthquake faults, the modifications and changes cited herein are designed to better limit property damage as a result of seismic activity and to establish criteria for repair of damaged properties following a local emergency.
- T** The City of Palo Alto **topography** includes hillsides with narrow and winding access, which makes timely response by fire suppression vehicles difficult. Palo Alto is contiguous with the San Francisco Bay, resulting in a natural receptor for storm and waste water run-off. Also, the City of Palo Alto is located in an area that is potentially susceptible to liquefaction during a major earthquake. The surface condition consists mostly of stiff to dense sandy clay, which is highly plastic and expansive in nature. The aforementioned conditions within the City create hazardous conditions for which departure from California Building Standards Code is warranted.



## Certificate Of Completion

Envelope Id: 7ED56F18E5364CE78E8D2816DE5EB863	Status: Completed
Subject: Please DocuSign: ORD 5481 Ch 16.14 Green Building Code Amending Ordinance for 2019 Code Cycle.docx	
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Document Pages: 24	Signatures: 6
Certificate Pages: 2	Initials: 0
AutoNav: Enabled	Envelope Originator:
Envelopeld Stamping: Enabled	Kim Lunt
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	Palo Alto , CA 94301
	kimberly.lunt@cityofpaloalto.org
	IP Address: 12.220.157.20

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## Signer Events

Sandra Lee  
 Sandra.Lee@CityofPaloAlto.org  
 Assistant City Attorney  
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## Signature

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 Director, Administrative Services/CFO  
 City of Palo Alto  
 Security Level: Email, Account Authentication (None)

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Jonathan Lait  
 Jonathan.Lait@CityofPaloAlto.org  
 Interim Director Planning and Community Environment  
 City of Palo Alto  
 Security Level: Email, Account Authentication (None)

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Ed Shikada  
 ed.shikada@cityofpaloalto.org  
 Ed Shikada, City Manager  
 City of Palo Alto  
 Security Level: Email, Account Authentication (None)

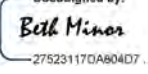
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Signer Events	Signature	Timestamp
<p>Eric Filseth  eric.filseth@cityofpaloalto.org  Mayor  Security Level: Email, Account Authentication (None)</p>	<p>DocuSigned by:    64244717295F422...</p> <p>Signature Adoption: Pre-selected Style  Using IP Address: 108.169.4.229</p>	<p>Sent: 12/6/2019 12:45:15 PM  Viewed: 12/6/2019 5:20:02 PM  Signed: 12/6/2019 5:20:23 PM</p>

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<p>Beth Minor  Beth.Minor@CityofPaloAlto.org  City Clerk  City of Palo Alto  Security Level: Email, Account Authentication (None)</p>	<p>DocuSigned by:    275231170A804D7...</p> <p>Signature Adoption: Pre-selected Style  Using IP Address: 12.220.157.20</p>	<p>Sent: 12/6/2019 5:20:25 PM  Viewed: 12/6/2019 10:35:12 PM  Signed: 12/9/2019 8:09:11 AM</p>
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Agent Delivery Events	Status	Timestamp
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Intermediary Delivery Events	Status	Timestamp
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Carbon Copy Events	Status	Timestamp
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<p>Madina Klicheva  Madina.Klicheva@CityofPaloAlto.org  Administrative Associate II  City of Palo Alto  Security Level: Email, Account Authentication (None)</p>	<p><b>COPIED</b></p>	<p>Sent: 12/9/2019 8:09:14 AM</p>
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Notary Events	Signature	Timestamp
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Payment Events	Status	Timestamps
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